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Amateur Radio

JOURNAL OF
THE WIRELESS
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For the Experimenter
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EDITORIAL



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Most readers of our journal, "Amateur Radio," are members of the Wireless Institute of Australia and as such appreciate the value of the magazine as a co-ordinating medium in the life of our Institute.

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It is a fact that any technical publication can only exist—if it is to be sold at a reasonable price—by the continuity of its advertising support; in this respect "Amateur Radio" magazine owes its success very largely to those manufacturers, distributors and general merchandisers who have so loyally supported its publication by maintaining advertising contracts over the past years.

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THE CONTENTS . . .

The Multi-Band Antenna Coupler	2	Fifty Megacycles and Above ..	15
A Standing Wave Indicator for 2/- (inc. tax) ..	5	DX Activity by VK3AHH ..	16
Amateur Television, Part Four ..	6	Prediction Chart for November 17	
Coronation Message ..	11	Amateur Call Signs ..	18
Hints and Kinks ..	11	Federal, QSL, and Divisional Notes ..	19
1953 Remembrance Day Contest Result ..	12		

The Multi-Band Antenna Coupler

Six Bands Without Coil Changing

THE antenna coupler described in this article was designed chiefly to simplify bandchanging when using a bandswitching transmitter. No plug-in or switched coils are used, and only a single split-stator tuning condenser is required to cover all bands from 3.5 to 28 Mc. Moreover, this design features simple construction with relatively few parts which are to be found in most junk boxes.

THE CIRCUIT

The circuit of the coupler as used at W2JJI, and the method of connecting it to the transmitter and receiver are shown in Fig. 1. When 3.5 or 7 Mc. energy is fed from the transmitter to link L3, the circuit will act as if it were connected as in Fig. 2A because the two halves of the small coil, L2, will have little reactance at these low frequencies, and may therefore be thought of as long connecting leads between the grounded end of the large coil, L1, and the condenser stators.

Fig. 2A shows that we have a simple parallel-tuned circuit under these conditions, with the two sections of the condenser in parallel across coil L1. This circuit may be resonated at either 3.5 or 7 Mc. if the total maximum-to-minimum capacitance ratio of the condenser is at least 4 to 1, and if the inductance of the coil L1 is such as to resonate at 7 Mc. with the total minimum capacitance.

When 14, 21, 27 or 28 Mc. energy is fed from the transmitter to link L3, the circuit will act as if it were connected as in Fig. 2B, because both the centre of coil L2 and the rotor of the condenser are at ground r.f. potential, and may therefore be connected together by coil L1 with no change in the electrical properties of the circuit. Fig. 2B shows that we also have a simple parallel-tuned circuit under these conditions, but with the two sections of the condenser in series across coil L2. This circuit may be resonated at any frequency between 14 and 28 Mc. if the inductance of coil L2 is such as to

● In this article, reprinted from "QST," August, 1953, W2JJI neatly solves the problem of the bulky inconvenience of the usual antenna tuner. Working on the principle of the multiband tuner, all bands from 3.5 to 28 Mc. can be covered with two coils and no switching. The simplicity and compactness should appeal to the low-power and high-power man alike.

resonate at 28 Mc. with the minimum capacitance which, in this circuit, is half the capacitance of one section of the condenser. The maximum-to-minimum capacitance ratio in this circuit will still be the same as when the two sections of the condenser were in parallel, which again permits a 2-to-1 frequency coverage.

With the condenser nearly open, the coupler will tune to either 7 or 28 Mc. With the condenser nearly closed, it will tune to either 3.5 or 14 Mc.

Because of the arrangement of the coils L1 and L2 in this circuit, only one of them at a time can be hot. This enables us to connect two antennae at the same time to the coupler, one on each coil. The one on the coil that happens to be cold will not affect the circuit while the one on the hot coil is taking power from the transmitter. If the antennae are designed so that one may be used on both 3.5 and 7 Mc., and the other on all higher-frequency bands, no switching of antennae will ever be required. If you use more than one low frequency or more than one high frequency antenna, provision must be made for changing their connections to the coupler when changing bands. But one high frequency and one low frequency antenna may be left connected to the coupler at the same time. If several antennae are to be used, the various feed lines should be equipped with links or clips to make it possible to change antennae quickly.

Tests have shown that the simultaneous connection of the two antennae does not result in any noticeable increase in harmonic output. The coils in the tuner have been so proportioned that when operating on the lower frequency bands, the circuit is detuned considerably from resonance with harmonics falling in the higher frequency bands.

Fig. 2B shows that the circuit is a balanced arrangement for the higher frequencies. Therefore, it is suitable for use with almost any type of feed system, and is conveniently adaptable to use with a centre-fed multiband antenna designed for 14, 21 and 28 Mc. However, as Fig. 2A indicates, the circuit is unbalanced for the two lower frequency bands. Individual dipoles for 3.5 and 7 Mc. with matched low impedance lines can be coupled inductively, as shown. A single antenna consisting of a half wavelength of wire for 3.5 Mc. (or multiples of a half wavelength for 3.5 Mc.) can be used for both 3.5 and 7 Mc. operation by connecting it to the rotor of the tuning condenser. In this case, it is a simple voltage-fed wire.

ANTENNA TUNER TABLE

Antenna Is Meets	Feed Line Coupling	Coupler Link	Freq. Freq. Dial
2 element beam, 72 ohm co-ax feed line	1 turn link 1/4 meshed at centre of L3	Maximum possible coupling to L3	28.0 7 28.5 6 29.0 6 29.5 6
10 Me. 1/2-wave folded dipole, 300 ohm feed line	Clipped to L3 1/2 turn each side of centre tap	1/4 of maximum possible coupling	14.0 63 14.1 62 14.2 61 14.3 60 14.5 59
40 Me. 1/2-wave folded dipole, 300 ohm feed line	Clipped across 3 turns at cold end of L1	Maximum possible coupling to L1	7.0 14 7.1 13 7.2 12.5 7.3 12
75-90 Me. 1/2-wave at 3.9 Mc. directly end fed	One end clipped on hot end of L1	Maximum possible coupling to L1	3.5 86 3.6 80 3.7 74.5 3.8 69.5 3.9 65 4.0 60.5

By removing the ground connection at the junction of L1 and L2, and moving the L3 link coil to the centre of L1, the circuit will be balanced for both high and low frequencies. However, the centre of L2 will then be hot at low frequencies and it will be necessary to provide good insulation between L2 and L4. Also, it will probably be inadvisable to leave feeders connected to L2 while operating at 3.5 Mc. or 7 Mc. from the consideration of simultaneous radiation from both antennae, possibly with an increase in harmonic output.

Fig. 3 shows a 300-ohm flat line from a 20 metre folded dipole clipped across a turn at the centre of the high-frequency coil, L2.

The location of the co-ax antenna relay between the coupler and the receiver, when in the receive position, puts the coupler between the antenna and

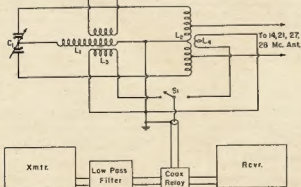


Fig. 1.—The multiband antenna coupler circuit and method of connecting to transmitter and receiver. Components and values are discussed in the text.

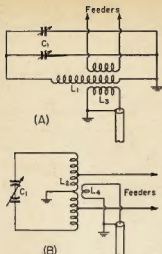


Fig. 2.—A: Equivalent circuit of the coupler when low frequencies are fed in L3. B: Equivalent circuit when high frequencies are fed in L4.

the receiver. The received signal is built up by the resonant circuit of the coupler, so the greatest response to incoming signals is automatically secured at and near the frequency to which the transmitter is tuned. Practically no signal will be received, however, when the receiver is tuned to some other band than that to which the coupler is tuned. This is in some respects an advantage, and in others a disadvantage. One advantage is the reduction in the amount of noise that reaches the first stage of the receiver.

THE CONDENSER

Since it is believed that most Hams prefer to use materials on hand, or easily obtainable, in constructing a device of this type, only a general description of the construction and critical values will be given. The model shown was made entirely from parts obtained from the junk box.

The condenser should be selected first. It must be a dead section job, and must have a maximum-to-minimum capacitance ratio, somewhat greater than 4-to-1. A 5-to-1, or greater, ratio is desirable. A condenser having a maximum capacitance of 140 or 150 pF. per section will be suitable if its minimum capacitance is not over 30 pF. The one used is a Cardwell with a maximum capacitance of about 240 pF. and a minimum capacitance of about 30 pF. per section. It is larger than necessary, but happened to be available.

The original insulators, having been broken, were replaced with lucite strips and steatite bushings. The bushings were found necessary when the lucite bubbled up internally at critical points under the influence of the r.f. The voltage rating of the condenser depends upon the power output of the transmitter. A plate spacing of 0.047 inch will stand about 1500 volts and is sufficient for an r.f. power of 500 watts.

The mechanical construction of the condenser selected will determine how the coils and s.p.d.t. switch are to be mounted. The coils, L1 and L2, are

permanently soldered to the condenser terminals since they are never changed. In the model shown, a soldering lug is bolted to the centre of each lucite strip to act as a tie point for the centre tap of L2 on one side, and a tie point for the grounded end of L1 on the other side. These two points are then joined with a heavy wire running across the top of the condenser. The outer braid of the RG-8/U from the co-ax relay is soldered to this same point. The other ends of the link coils are soldered to the switch contacts. The centre conductor of the co-ax is soldered to the movable arm of the switch. The switch is mounted on stand-off insulators and home-made metal brackets supported by the condenser frame itself.

Since the frame of the condenser in Fig. 1 is hot when on 3.5 or 7 Mc., the condenser must be insulated from the chassis. Any suitable stand-off insulators may be used for this purpose. In the model shown, steatite bushings were used to insulate metal stand-offs. In any case, be sure to provide sufficient spacing to prevent flashovers to the chassis. The tuning dial must also be insulated from the condenser drive shaft. A ceramic coupler or section of insulated shaft may be used for this purpose.

COILS

The sizes of the coils are fairly critical. As pointed out before, the inductances of L1 and L2 will depend upon the minimum capacitance of the condenser used. L2 is made of 1/4" copper tubing (No. 10 wire would do). This coil is 2" in diameter and about 1 1/2" long. If the minimum capacitance of the condenser is about 30 pF. per section, 6 turns will be required for L2. If less than 30 pF., 7 or 8 turns must be needed to tune the circuit to tune from the high end of the 28 Mc. band to the low end of the 14 Mc. band. The low frequency limit will depend upon the maximum capacitance of the condenser. If this is somewhat more than four times the minimum capacitance, no trouble should be encountered with a 6-turn coil for L2. A grid dip oscillator will quickly show if L2 has the proper inductance. This coil should be adjusted before L1 is attached.

Coil L1 should be made of No. 12 wire or heavier, 2" in diameter and about 2 1/2" long. This coil will require 12 to 14 turns. The grid dip oscillator again may be used to check the frequency range by coupling it to coil L1, coil L2 being left in the circuit. It should be possible to tune from the high end of the 7 Mc. band to the low end of the 3.5 Mc. band if L1 has the proper inductance.

If 50 ohm co-ax is used to connect the transmitter to the coupler, the link coils, L3 and L4, should have a reactance close to this same value. Five turns will therefore be required for L3, and 1 turn for L4. These coils are coupled as shown. All coils are air-wound and supported only by their leads. The 1 turn link is made of No. 12 well insulated wire, as it is held in place by tension between the centre turns of L2. The 5 turn link is made of No. 12 enamel covered wire. Both link coils are 2" in diameter.

ADJUSTMENT

The adjustment of this coupler is fundamentally the same as for any of

the more conventional types. The general idea is to get maximum transfer of power from the transmitter to the antenna. To do this requires a low standing wave ratio on the link line between the transmitter and the antenna coupler. This is accomplished by making the various antenna feed lines that are to be connected to the coupler all look like 50 ohms to the transmitter. Detailed data on one procedure for matching to flat lines may be found in February, 1950, "QST". This method requires the use of an s.w.r. bridge in the link line. With the model described in this article, an antennascope² was used to make the necessary adjustments. To use this instrument, disconnect the link line from the co-ax relay, or from the receiver, whichever is more convenient, and connect this end of the line to the output terminals of the antennascope. Couple the input terminals to a grid dip oscillator or other low power variable frequency r.f. generator. Set the antennascope dial at 50 ohms and the r.f. generator to the frequency of one of the antennae to be checked. Adjust the coupling or output power of the r.f. source for approximately full-scale deflection of the antennascope meter.

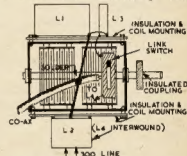


Fig. 3.—The multiband antenna tuner, showing the method of mounting the coils and link switch.

Connect the feed line of the antenna to the proper coil of the coupler, using some trial degree of coupling. Switch in the proper link on the coupler. Now tune the condenser of the coupler for the greatest dip on the antennascope meter. If the meter does not go to zero, increase or decrease the amount of coupling to the antenna, re-adjusting the tuning condenser with each change to obtain the greatest dip. When the antenna coupling that results in the lowest meter reading is found, leave this and increase or decrease the coupling of the link coil of the coupler to make a still greater dip if possible. This adjustment should bring about a complete null if the input impedance of the antenna feed line is nonreactive. If a complete null cannot be found, the antenna or its feed line need adjustment. The antennascope may be used for this purpose also.

The above procedure should be repeated for each antenna to be used with the coupler, and a record kept of (1) the tap or link position of the feed line; (2) the coupler-link position; (3) the condenser-dial settings for various frequencies. (Continued on Page 8)

¹ Granmer, "Eliminating TVI with Low-Pass Filters," "QST," February, 1950.

² Scherer, "Using the Antennascope," "CQ," September, 1950.

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Dual Transmuting—
JC1560 80 pF., £2/10/-
JC1569 200 pF., £3/10/-

Midjet Transmuting—
Single type 35 pF., 25/-
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TRANSMITTER-RECEIVER

Type RT-34/AFS-13

Frequency Modulated, approx. 450 Mc. Valve line-up:

9-6AG5

5-6J6

2-2D21

1-VR105

Also contains Dynamotor, input 27v. 1.5 amp., output 285v. 60 Ma. Price £17/10/-

RADIO TRANSCEIVER AND INDICATOR UNIT

V.H.F. Approximately 180 Mc.

Type 1045. Valve line-up in Transceiver: 2—RL18, 1—VR135, 1—5V4, 1—EA50, 1—RL37, 6—EF50, 1—GSN7, 1—GL2050 (Thyatron, 2—VR150/30 (Voltage Regulators), 1—884 (Gas Triode). This unit also contains a motor driven Selector Switch, two superbly designed Polystyrene six-position rotary Coil Turrets, and an I.F. Transformer strip ideally suitable for use with Television. Band width 10 Mc.

Indicator Unit, Type 1047. Valve line-up: 7—EF50, 1—879, 1—VR54. Also contains a 3,000 type Relay 2,000 ohms, ten assorted Potentiometers, a two-bank Ceramic Wafer Switch, and an illuminated scale (5BP1 tube and shield not included).

These two Units are brand new, and are packed together in their original packing cases.

PRICE £21/10/- the two.

Transceiver £15/-/- } if supplied separately.
Indicator Unit £7/10/- }

VALVES

BRAND NEW IN ORIGINAL CARTONS

1H6	7/6	830B	60/-
1K7	10/6	813	60/-
2A3	15/-	VR150/30	22/6
6AC7	15/-	954	7/11
6B8	15/-	955	7/11
6F6	12/6	12A6	12/6
2051	22/6		
6K6G	12/6		
6K8	12/6		
6L7	12/6		
807	25/-		

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

COMMAND

RECEIVERS

Type BC453, 180 to 550 Kc.,

£12/10/-

BC454, 3 to 6 Mc.,

£7/10/-

BC455, 6 to 9.1 Mc.,

£7/10/-

TRANSMITTERS

Type BC457, 4 to 5.3 Mc.,

£7/10/-

BC458, 5.3 to 7 Mc.,

£7/10/-

BC459, 7 to 9.1 Mc.,

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COMMAND RECEIVER

CONTROLS, Type BC450

3—Slow Motion Dials.

6—Single Pole Double Throw Switches.

4—Miniature Jacks.

3—Volume Controls, approx. 500 ohms.

Price, £1/15/-

Post. & Pack.: 6/-, Interstate 8/6.

COMMAND MODULATOR UNIT, Type BC456E

In new condition, contains:

1—12J5

1—1625

1—VR150/30

3—24v. Relays

Price, £3/10/-

TRANSMITTERS

Type TR3548

Containing Valves: 1 Rectifier VU11, 1 EF50, 1 10 Cm. Magnetron Valve complete with magnet, 1 Crystal Diode Type 1N21; and 1 24 volt Blower Motor, Brand new. Price £5/19/6.

MODULATING UNIT

Type 169, containing Klystron Tube, three Neon Stabilisers, one EF50, two half-wave Selenium Rectifiers, one 5U4 Rectifier, one CV85, Potentiometers gears, Resistors, high voltage Condensers and Transformer. Price £4/19/6.

BENDIX RADIO AZIMUTH CIRCLE LOOP AERIAL CONTROLS, Type MN22A

Price 35/-

Post. & Pack.: 4/9, Interstate 6/-

A Standing Wave Indicator for 2/- (inc. tax)

BY C. J. COOKE,* VK4CC

As the above title infers, the device to be described is nothing out of the box, very practically nothing anyhow. Those of you who can afford a nicely calibrated s.w.r. indicator will not be interested in this unless it's to prove that you may have wasted your money and time or alternatively to brand me "a new chum" a little out of alignment.

The accompanying diagram should show you how I went about the business of matching a 300 ohm line to a closed stub on a W8JK beam. The principle could, of course, be applied in other antenna-feeder matching problems. If you can't make the feeder match the antenna you either (a) change the beam, like I did, (b) increase the height to 65 feet, as 4VJ did, (c) throw the feeder away and buy a new one, like 4XG did, (d) put up with the mismatch, as most of us do, anyhow.

Briefly, the method makes use of the fact that a short-circuited transmission line has a high current value near the "short" and low value at a point a quarter wave from that short, towards the transmitter. Likewise, if the line is left "open" at the ends, the current is low at the end and high a quarter wave from that point towards the transmitter. If the line is correctly terminated, the current distribution will be substantially the same along the entire length of feeder. Therefore, if the terminating impedance is higher than that of the line, the current distribution will be the same, in effect, as an open-circuited line; and if lower it will be the same as a short-circuited line. If the impedance is the same as the line everything, like baby bear's porridge, will be "just right." The idea should be applicable to co-ax cable by shunting smaller sections of it with pea lamps—smaller because the current will be greater in low impedance lines and of course you do not want to burn out those bulbs first go, do you?

In any case, the method of adjusting to a stub is so easy that a child could do it, simply slide the feeder connection up or down until both globes are the same degree of brilliancy. Terminated folded dipoles and "T" matches should be equally as easy to adjust. Remember, it is easier to compare two "dull" globes than it is to compare "bright" ones, so either decrease power or decrease the length of feeder being shunted.

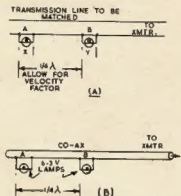
If both globes retain the same brilliancy no matter what you do to upset the match, you probably have the globes connected at points one-eighth and three-eighths wave from the end of the line, in which case, as my friend 4FT was bright enough to point out, both globes would act like that. However you can easily check this before you start by trying the device out before you connect to your antenna by shorting and opening the end of the feeder with power into the line from the transmitter and observe if the globes behave as expected.

The idea of running up and down the feeders with a current indicator to check the s.w.r. is "out" as far as I am concerned, after reading of the experience of a W who finally found that his 7/22 feeders eventually looked like spider webs. He also found it inconvenient to keep lengthening the stick

upon which was placed the indicator as he also finished up with a slit-trench directly below the feeders.

Of course the method described is not new, but it hasn't had the publicity it deserves. If you like to have your antenna looking like a xmas tree you may leave the globes in place permanently—and, by the way, it is easier to do your adjusting at night as you would expect. If you must do it during the day, it may be an idea to colour the glass of the globes red or green.

In conclusion, make sure the end globe is as close to the end of the feeder as possible and the other quarter wave (allowing for velocity factor) from it, and make sure that the sections of line shunted by each globe is the same as far as you can accurately measure. The lengths of these similarly-shunted sections should be changed from the one foot shown if power other than 50 watts or if a different type of feeder is being used.



In (A): X and Y are each 12 inches on 20 metres (for 50 watts). Lamp A to be as close to end of transmission line as possible (avoid one-eighth wave or close thereto, otherwise inaccurate).

1. If both Lamps are of equal brilliance, the transmission line is matched correctly.
2. If Lamp A is brighter than Lamp B the transmission line is terminated in an impedance **lower** than its own natural surge impedance.
3. If Lamp B is brighter than Lamp A the transmission line is terminated in an impedance **higher** than its own natural surge impedance.

AMATEUR BANDS AVAILABLE

*1.84— 1.86 Mc.	†288— 296 Mc.
3.5 — 3.8 "	†576— 585 "
7 — 7.15 "	1,215— 1,300 "
14 — 14.35 "	2,300— 2,450 "
21 — 21.45 "	5,650— 5,850 "
26.96— 27.23 "	10,000— 10,500 "
28 — 30 "	†21,000— 22,000 "
50 — 54 "	†30,000 Mc. and
144 — 148 "	Above.

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.
† Temporary allocations.

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BY E. CORNELIUS,* VK6EC

FIG. 16
VIDEO MIXER

Video Amplifier.—This consists of two stages, using 6AC7s, shunt peaked, by the method outlined when discussing the pre-amplifier. A gain of "contrast" control at the input prevents overloading, and sets the degree of light and

shade. About 25 volts peak for white is required at the grid of the 5BP1.

Synchronizing.—A 5,000 ohm resistor in series with the picture tube grid load serves to feed a portion of the video signal to the first sync. amplifier, a half 6SN7. Its output polarity is black positive, and the signal drives a 6SH7 clipper, using grid leak bias. The clipper removes the picture information, leaving only the composite sync. signal, i.e. it clips all above black level.

The output of the 6SH7, which is black negative, feeds a differentiating network and a cathode follower.

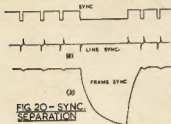


FIG 20—SYNC SEPARATION

Fig. 20a shows how the differentiating network extracts line sync. information from the composite sync., negative going sync. pulses being required by the line time base.

An integrating network in the cathode circuit of the cathode follower extracts frame sync. information at this point (see Fig. 20b). This frame sync. signal is also negative going for the frame time base.

D.C. Restoration.—A picture signal has the characteristics of an alternating current superimposed on a direct cur-

rent. The a.c. delineates the detail of the picture, and the d.c. the average brightness.

In the video amplifiers, which are a.c. coupled, the d.c. component of the picture is lost. Without this component, a picture varying from mid-grey to white (say a daylight scene) would be reproduced exactly as the same scene at dusk (mid-grey to black). If some reference is provided, the d.c. component can be inserted at any point in the system including of course, the picture tube. The reference level is conveniently made the black, or blanking level. At the end of each line, and frame, the output is reduced to zero by the blanking signal, this corresponding to black.

An inverted diode, at the grid of the cathode ray tube, will adjust the grid bias continuously, so that the tips of the blanking pedestals are always at black level, and the signal can only vary in the direction of white.

Fig. 21a, showing three dark lines, and two bright lines, without d.c. restoration, shows how the dark areas become progressively lighter. Fig. 21b, with d.c. restoration, shows how the lines will truly register the correct degree of light and shade, their pedestals being effectively "clamped" to black level. The d.c. restoring diode circuit is

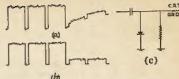


FIG 21—D.C. RESTORATION

shown in Fig. 21c, the diode being an OA61 germanium diode.

Power Supply.—An r.f. e.h.t. generator is used for the positive 2 kv. supply for this unit, as for the f.s.s. and photomultiplier. As the cathode and heater of the 5BP1 are tied, a separate 6.3 volt winding is needed for this tube, but no stringent high voltage insulation requirement has to be met.

About 350 volts positive is used for time bases, video amplifier and sync. separator. To minimise hum, the power supply is a separate unit, as for the other units.

OPERATION

For telestills, using transparencies, no lens system is necessary, the transparency (a film negative, or positive slide) is placed against the screen of

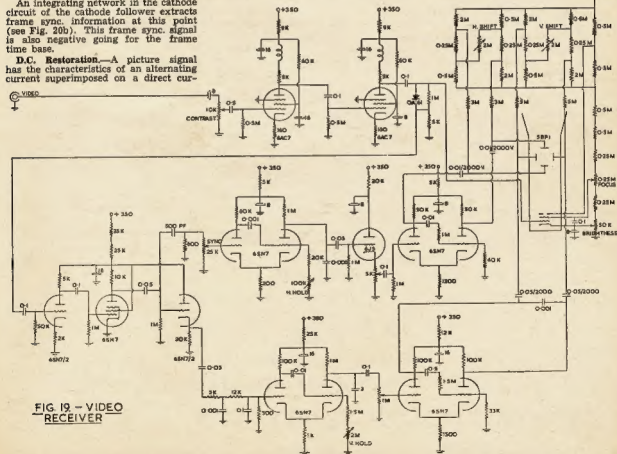


FIG 19—VIDEO RECEIVER

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.

- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrifil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrifil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved. Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

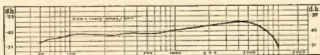
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case 1½" diameter (rear), 1½" thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
Output Level = -45 db (0 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

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A diagram of a simple camera. On the left, a vertical line represents a distant object, labeled 'F.S.E.'. Two lines diverge from the top and bottom of this object towards the right. These lines pass through a vertical line labeled 'TRANSPARENCY'. After passing through the transparency, the two lines converge towards a point on the right, which is labeled 'PHOTOEMULSION'.

With the exception of the e.h.t. for the photocell, all units are switched on, and given a five minute warming up period, in order to stabilise. The raster on the f.s.s. is then adjusted for size and aspect ratio, about $2\frac{1}{2}'' \times 3''$. Using a c.r.o., the video mixer is adjusted to give the correct sync. amplitude. The receiver time base "hold" controls are adjusted for a synchronised raster—lines stationary, edges blanked, and a fixed intensity. The intensity of the receiver raster is adjusted to be just visible, with its size and aspect ratio similar to that of the f.s.s.



A test transparency is placed against the screen of the scanner, the pattern being of the form shown in Fig. 22. This pattern is used as a check on linearity and resolution, and is made with Indian ink on glass.

At the apex of the pyramid the lines are at zero spacing, and the resolution required would be infinite. Progressively lower resolution is required as the pyramid becomes broader toward the base.

Provided that the pattern width as to raster width is decided in advance, the pattern can be calibrated in bandwidth required to resolve it, or the duration of signal transition in microseconds. Frequency calibrations are shown in the figure.

On test, the reproduced pattern shows a point up the pyramid where the lines appear to merge together. This is the limit of resolution, the pattern being an excellent guide to the effects of changes in circuits and constants. To date the equipment will resolve better than one microsecond, or 500 Kc.

With the lights out, the photocell e.h.t. is applied, and a picture of sorts shows on the receiver screen. The flying spot scanner is checked for focus

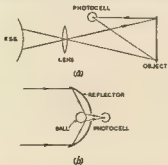
Adjustment of the high-peak circuit, for phosphor persistence correction, is accomplished by varying the 3-30 μ F. trimmer capacitor. Varying compensation through the optimum correction point shows, following a black bar, firstly a dark smear decreasing in width until a clean edge is reached, over correction resulting in a white bar following the black. Using a picture, slight over correction seems to give the clearest image, only the test pattern showing the overshoot. A transparency of a head and shoulders, or a full length figure, is well resolved, but scenes are less well resolved, detail being blurred. Further work in high-peaking, possibly using two networks in series, with differing time constants, may improve the resolution.

Increase in Apparent Gamma.—In the reproduction of transparencies of normal gamma, or contrast, the reproduced picture has its contrast considerably increased. On the other hand, a washed out negative or slide reproduces remarkably well, with increased contrast.

The cause is the ratio of grid voltage as to screen brightness, of the 5BP1 picture tube. The characteristic is sufficiently curved, to make brightness greater than a linear function of grid voltage. It is possible to use a gamma control amplifier—several tubes in parallel, with differing electrode potentials, so that the gain falls, as the instantaneous input rises. Some experiment in this direction is still planned, but nothing has been done to date.

By using a lens in front of the flying spot scanner screen, an image of a raster can be formed on a picture or object placed at the focal plane. By picking up the light reflected, a range of subjects, and still pictures has been effectively televised. The position of the lens controls the position and size of the raster image, and hence the size of the subject that can be scanned. Fig. 23a shows the set-up for direct pick-up.

Live subjects can be placed at the plane of the raster image, but to date results from a head and shoulders have



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Some promise of success has been obtained from a reflective system, shown in Fig. 23b, using a car headlamp reflector, and polished steel ball. Headlamp reflectors are parabolic, with the focus within the reflector. Light travels to the focus through very large solid angle, to the surface of the ball. If this is of the right diameter—1" or more—most of the light is reflected through the hole in the back of the reflector, where the photocell is placed. Light loss will be evident at both reflecting surfaces, but an effective light transfer of 30 per cent. seems possible, and the enormously increased light collecting area should allow an area of 2 feet by 2 feet to be scanned.

With this system, the effect is that the subject is illuminated by a spotlight, with exaggerated highlights and shadow, but two photocell systems, strategically placed, and their outputs mixed via gain controls, will allow a degree of flexibility to the apparent lighting effect.

(To be continued.)

(Continued from Page 3)

quencies in each band. This record will make it possible to return quickly to the correct settings when antennae are changed. (See the accompanying table for representative values of coupling.)

Don't worry if the coupler is slightly off resonance when adjusted by the above method. This will be the case if the antenna feed line is not absolutely flat. Tuning the coupler slightly off resonance is necessary to produce an s.w.r. of 1 to 1 in the link line. The final amplifier of the transmitter should always be adjusted at the transmitter end of the link line so as not to upset the impedance match in the coupler, once this has been correctly set.

Exact adjustment of the links on the coupler is desirable, but not absolutely essential. Very little difference in results will be noticed if the coupling here is slightly incorrect, so if it is necessary to move the link when changing antennae, it can be returned near enough to its original position by eye. In most cases, the tightest possible coupling will be required.

It should be mentioned in conclusion that the coupler can, of course, be designed to permit operation on bands other than those mentioned. By using four times as much inductance (about twice as many turns) for L1, the low frequency coverage can tune to 80 and 160 instead of 40 and 80 metres. Similarly, the high frequency coverage can be changed to tune to 40 and 80 instead of 20 and 40, or shifted toward higher frequencies to cover 6 and 10 metres, by a suitable change in the inductance of L2. By making L1 large enough to cover 80 and 160, it can also be made to cover 40 by shorting out about half the turns.

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	Primary	Secondary					
893-23	5,000, 7,000	2, 3, 7, 8, 12.5	1	*40-15,000	5	Single 6V6G, 6AQ5, etc., to V.C.	28/3
894-23	500	2, 3, 7, 8, 12.5	2	50-10,000	5	Line to Voice Coil	26/3
900-22	2,500, 5,000	2, 3, 7, 8, 12.5, 15	1	*40-15,000	15	Single 807, EL34, etc., to V.C.	57/6
898-9	8,000, 10,000	2, 3, 7, 8, 12.5, 15	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to V.C.	62/6
897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to Line	62/6
783-9	3,000, 5,000	2, 3, 7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
809-26	500	2, 3, 7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil	42/6
870-26	10,000	2 or 8	1	*20-20,000	**8	P.P. 6V6Gs or 807s as Triodes	57/6
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	61/-
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	61/-
891-22	8,800	83, 100, 125, 166, 250, 500	1	50-12,000	35	P.P. 807s, AB1 to Line	62/6
892-22	5,200	50, 62, 83, 125, 250, 500	1	50-12,000	55	P.P. 807s, AB2 to Line	97/-

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- ★ "RADIOTRON VALVE MANUAL" A.W.A. 12/6 " 1/- "
- ★ "PHILIPS VALVE MANUAL" 8/6 " 9d. "
- ★ "RADIO SERVICE MANUAL," Vol. 11 24/- " 1/- "
- ★ "RADIO AMATEURS' HANDBOOK" A.R.R.L. 44/3 " 2/- "
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Coronation Message

In Federal Notes, published in the April, 1953, issue of "Amateur Radio," reference was made to the R.S.G.B.'s Coronation Relay.

On your behalf the Federal President sent the following message of loyalty to Her Majesty Queen Elizabeth:

"On this the occasion of Your Majesty's Coronation we, the members of the Wireless Institute of Australia, humbly tender our sincere good wishes and re-affirm our loyalty and devotion. May your reign be long, happy and peaceful."

The message was sent via the Federal Traffic Channel over three networks:—
VK3FH/VK2GW/ZL3JA/G3AHE/G2MI
VK3FH/VE8AW/G6ZO.
VK3FH/G3BKF.

The letter published herewith is Her Majesty's acknowledgment of its receipt.

As members of the W.I.A. we are honoured to receive such a communication from the Queen who, in her graciousness, has recognised the existence of our Institute. As proud citizens of one of Her Majesty's Dominions, we appreciate the privilege of belonging to a democracy wherein the Queen is not only cognisant of the existence of her people, but also genuinely interested in their welfare.

To those Amateurs who handled the message we say—Thank you! The reliability of the Amateur Communication Service has once more been proven. In the years to come, participants will be able to recall with pride the part they played.

Our congratulations go to the R.S.G.B. Organiser and his Society for a job well done.

FEDERAL EXECUTIVE.

HINTS AND KINKS

When making up aluminium brackets, shields, etc., particularly during modification of equipment already in use, it will usually be found more convenient to make a template of the proposed fitting from paste-board. Having completed the cutting and trimming, and, if necessary, bending the template to the desired shape, it may now be flattened out and the most conveniently-sized piece of scrap aluminium on hand may then be selected and the fitting cut from it to be bent to its desired shape, if so required, without further trouble. One point may be noted, it will seldom be found satisfactory to drill out the holes for any mounting bolts before bending. It is better to drill some holes to mount the fitting firmly, then to complete the remaining holes when securely in position.

It has been found that the paste-board back of old writing pads are the most readily available and satisfactory material for templates, although suitable paste-board may be obtained almost anywhere, including from most suppliers of stationery requisites.—VK3FD.



Home Office,
Whitehall.
27th June 1953

Sir,

*I have had the honour to lay before
The Queen the Loyal and Dutiful Address of
the Wireless Institute of Australia
on the occasion of Her Majesty's Coronation,
and I have it on Command from The Queen
to convey to you Her Majesty's warm
thanks for the expressions of loyalty and
devotion which it contains.*

I am,

Sir,

Your obedient Servant,

David Maxwell Fyfe

*The President
Wireless Institute of Australia*

WESTERN AUSTRALIA AGAIN!

Congratulations to the Western Australian Division for again winning the Remembrance Day Contest and retaining the Trophy for another year.

This Contest is gaining in popularity every year. This year a total of 630 logs was submitted compared with 418 last year and 384 in 1951. In addition, although provision has not been made for a listeners' section, five listeners' logs were submitted.

It has not been possible to ascertain just how many Amateurs took part in the Contest, but during log checking many missing logs were noted and an estimate of 1,500 would not be far out. As the total licences for the Commonwealth and Territories is 2,978, some of which are held by inactive Amateurs, the popularity and success of this Contest cannot be questioned.

For the first time VK1 was given official standing by allocating six points for every VK1 contact. VK1AF put in a tremendous effort and operated for the duration of the Contest, making 181 contacts.

VK1BA and VK1RL did their share by transmitting the complete log by radio to Federal Traffic Manager, VK3FH, who in turn forwarded it to the Contest Committee before the closing date for entries. As it was only possible for one station to operate from Macquarie Island, the boys tossed for the honour. However, it is difficult to say who put in the most work as getting the log through took four nights of operating. Congratulations to all concerned for a very fine piece of team work.

Two logs were received from VK9; however this does not mean that only two VK9 Hams took part.

Owing to adverse propagation conditions, the 21 and 28 Mc. bands were not used very much, but it is hoped that by next year conditions will be better and these bands will come into their own. No Interstate contacts were reported on 50 Mc.

The work of checking the logs was made easier by the extensive use of the Standard Log Sheet, and it is hoped that this will become standard practice in all future Contests. Some Divisional

Secretaries took the trouble to arrange their logs in numerical sequence and to endorse the total score on the top right hand corner. This gesture was very much appreciated as it saved the Contest Committee a considerable amount of work.

A few final scores had to be adjusted where contacts did not check, but any alterations made did not affect the final result.

The ever increasing success of this Contest is a continual expression of our appreciation to those Amateurs who gave their lives in World War II. so that we could continue to enjoy this great hobby of ours, and this sentiment was expressed in endorsements to many of the logs received.

The Remembrance Day Contest is Our Contest, held in memory of our own comrades, so let us see that the entries for 1954 are even greater than this year.

—V. H. WILSON, Federal Contest Manager.

THE TOP SCORERS

Western Australia

VK6FL	700	Average Score	582.3
6DX	658	Licencees in State	183
6RU	633	Logs received	87
6HK	610		
6VM	569		
6CA	389		
		Total Points	795.42

Tasmania

VK7KB	777	Average Score	439
7RX	474	Licencees in State	108
7AI	421	Logs received	48
7RL	360		
7DZ	314		
7LZ	288		
		Total Points	632.1

Victoria

VK3ATN	764	Average Score	539
3FH	548	Licencees in State	961
3ADW	520	Logs received	137
3JE	513		
3ALQ	482		
3OM	407		
		Total Points	614.46

New South Wales

VK22C	616	Average Score	538
2JU	606	Licencees in State	1038
2DO	549	Logs received	112
2AHH	543		
2AMR	514		
2RS	400		
		Total Points	596.1

South Australia

VK5MS	790	Average Score	517.3
5FO	572	Licencees in State	345
5XN	523	Logs received	53
5JN	513		
5CY	371		
5XO	335		
		Total Points	594.9

Queensland

VK4RT	772	Average Score	494.3
4TN	678	Licencees in State	304
4PQ	412	Logs received	53
4KW	389		
4TY	370		
4DI	345		
4FE	343		
		Total Points	578.33

REMAINDER OF THE SCORES

In addition to the six leading logs from each State, the following were also received to help swell the various States' totals and thus increase the bonus —

NEW SOUTH WALES

VK3GW	365	2ZQ	85	2AIL	31
3DV	363	2AAW	80	2IV	30
3AG	343	2LG	79	2TP	29
3JY	322	2ABE	88	2AMV	29
2BO	313	2CS	87	2EI	28
2WH	302	2WQ	83	2XT	27
2BM	288	2ATD	82	2DU	27
2AJO	271	2ACC	79	2AFA	27
2ZY	269	2QL	76	2YB	27
2APP	254	2XG	75	2AIA	25
2FA	217	2GI	75	2FH	24
2GT	217	2ACI	71	2AL	23
2AB	208	2WT	68	2ACJ	23
2PQ	195	2OT	63	2AXZ	22
2ACD	194	2EU	62	2ACI	22
2TP	171	2AAN	60	2ARO	21
2VU	168	2OM	60	2PL	20
2KU	160	2RM	59	2AND	20
2BR	159	2XZ	57	2OW	19
2VC	135	2PV	55	2AOR	18
2YV	131	2OH	51	2RZ	18
2CZ	128	2YH	50	2HC	14
2JL	125	2JD	48	2PZ	17
2EL	123	2JF	48	2SK	16
2BR	120	2ABW	46	2RF	15
2VW	119	2ASJ	45	2BI	18
2GR	118	2JN	44	2AEZ	16
2ADT	115	2AOJ	44	2AYR	16
2AWN	113	2JY	40	2SP	15
2AWQ	107	2JL	38	2AM	15
2AC	106	2AL	37	2SA	12
2RH	100	2RK	33	2QZ	9
2ARI	99	2APL	33	2BN	9
2XN	96	2BG	32	2ABU	9
		2AMB	32		

VICTORIA

VK3RR	361	2HG	183	2LA	142
3ACE	328	2QK	184	2WQ	142
3UR	321	2SC	184	2WV	140
3OB	309	2ANQ	183	2AT	135
2XK	283	2AFJ	182	2AGS	127
2ZU	259	2ZJ	180	2AIF	124
2KX	248	2KX	177	2AFL	114
2XB	242	2AUG	176	2IO	114
2ARL	239	2GG	174	2AXC	114
2KR	238	2YF	168	2TY	113
2AHH	221	2RN	167	2YR	111
2AKO	211	2SX	165	2ANJ	106
2AFA	208	2AUL	160	2ATV	101
2ACD	203	2ATF	151	2AEN	103
2AZW	189	2AUF	148	2AAP	102
2ZA	182	2DQ	144	2AEX	101

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3PL	100	3ALE	57	3AGV	51
3APF	88	3AFO	56	3ACK	30
3XV	88	3YS	56	3WL	25
3VZ	87	3AOW	54	3ALD	25
3ABP	87	3KV	53	3AEK	27
3IB	87	3MT	50	3VQ	25
3ND	83	3ACN	48	3SS	24
3TO	81	3AEP	46	3MH	18
3AM	87	3ATK	44	3AVH	16
3ADU	86	3DL	44	3AWS	16
3AQG	40	3ACJ	44	3PG	15
3XU	76	3HL	44	3DG	14
3RU	75	3ALG	43	3QZ	13
3ED	75	3TL	43	3ABA	12
3AKW	75	3ALY	43	3JO	13
3GU	74	3AMZ	41	3CJ	12
3JD	72	3OI	40	3RI	12
3KB	72	3FO	40	3BV	11
3ZY	72	3ARM	39	3AID	11
3UL	69	3ARH	38	3ZL	10
3LV	68	3BQ	35	3ZS	10
3JA	67	3ABP	35	3ABX	10
3FI	67	3AMN	35	3ZAI	10
3BL	66	3OI	35	3AFP	9
3BG	64	3HR	34		
3FA	61	3BS	33		
3AHF	59	3ANS	33		
3AEW	59	3HT	32		
3NV	59	3LN	32		
		3IE	31		

TERRITORIES			
VKTDW	399	TKC	58
TSF	233	TSR	51
TWA	185	TLK	44
TCM	179	TKK	40
TCA	137	TMG	35
TKM	144	TBJ	31
TKL	138	TID	29
2AL	135	7AM	27
7LJ	116	7LL	27
7BQ	85	7NY	25
7WN	74	7DA	22
7RM	74	7JT	22
7ET	73	7OD	20
7DS	69	7ET	20
		7KX	7

Check logs were received from the following listeners: Messrs J. H. Price, D. Rankin, W. J. Whitt, E. W. Treblecock, Edwin Spencer

QUEENSLAND	
VK4KP	318
4VJ	285
4WJ	277
4JF	157
4DO	144
4LN	143
4FW	136
4HZ	135
4CK	127
4SF	127
4HH	125
4BG	116
4FN	115
4HM	112
4EC	107
4ZP	105
4NV	98
4WH	93
4RW	70
4XL	63
4GA	59
4GG	48
4NO	42

SOUTH AUSTRALIA	
VK4CE	328
5AX	324
5HI	294
5BO	283
5WO	271
5JT	268
5RR	259
5OW	233
5LB	229
5LD	220
5DP	214
5DK	200
5MD	148
5PW	140
5FG	134
5FD	115
5JO	112
5AJ	110
5XK	104
5MZ	90
5TJ	80
5BR	72
5HL	94
5BZ	85

WESTERN AUSTRALIA	
VK4AZ	331
6KJ	227
6TK	226
6SE	189
6KE	111
6NO	90
6TB	78
6OU	73
6CJ	54
6LB	43
6WW	39
6TY	37
6MK	36
6WG	34
6MO	32
6JG	29
6XG	29
6UT	29
6WR	28
6BS	28

DON'T FORGET! CLOSING DATE FOR COPY FOR THE JANUARY ISSUE IS 1st DECEMBER



Western Australian Division of the W.L.A. retains the above Remembrance Day Trophy

50 Mc. W.A.S.			
Call	Certificate Number	Additional Countries	
VK3VW	9	3	
VK3WJ	12	3	
VK3RY	2	3	
VK4HR	4	2	
VK5LC	1	1	
VK5DW	1	1	
VK3PG	1	1	
VK3RR	6	1	
VK3HT	7	1	
VK3AEZ	10	1	
VK3XA	11	1	
VK3GM	12	1	
VK3ACL	14	1	
VK3ZD	16	1	
VK3ABC	18	1	
VK3WH	15	1	

ERRATUM
In the article last month on the Multi-Band Tuning Unit an error appears in the second line of second last paragraph of the centre column. The size of the coil former should read "2 inch diam"

ACCURATE FREQUENCY TRANSMISSIONS FROM VK3WI

The next Accurate Frequency Transmission will take place on Thursday evening, 19th Nov., 1953, on the 7 Mc. band. Details of the operating procedure and times of operation will be found on page 6 of the February, 1953, issue of this magazine.

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FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

The next meeting of the V.H.F. Group is on 6th November at Small Hall, Science House, Sydney. The meeting held on 2nd October was a great success, the lecture by Mr. Fred Holloway, Design Engineer to A.W.A., who gave an interesting talk on Vibrator Supplies and the discussion on the V.H.F. band. He covered quite a lot of ground. Thanks Sir, for a very constructive and entertaining evening. The vote of the meeting was given by Dr. Rafe. 50 M. 14th activity on this band to date. The usual chips of course can be heard now and again.

144 Mc. This band still the most used of the v.h.f. spectrum and many stations may be worked nightly.

On 10th Sept. another Fox Hunt was held which, like the last one, proved to be a boon, there was 13 mobile units and parties participating. First to find the Fox were 2DA and 2LG, 2nd 2KS and 2AG7, the rest ambled in later to join the main group. Those out were 2DA and 2LG, 2KS and 2AG7, 2HL and 2HE, 2W7 and 2APQ, 2ABZ and 2GZ, 2QW and party, 2ABO and party. As usual, a lot were lost due to reflections, etc. 2ANP and 2KZ again are the best to spot they picked, namely Hawkesbury Look Out. The day was fine and all agreed it was an excellent turn out. Congratulations to Bob ROA and his co-pilot, W.L. ZLG for being the winners of this event.

2AOE will be heard on again soon. Bob 3QZ has been active on 144 from his home and is putting out a good signal. Bob shifted from his Sydney location to his present one at Longville in a few days and is on 144 Mc. already, good going Bob.

Don't forget the Way Way Field Day on 15th November, come along and meet all the boys.

We hear that 2AJ5 of Grafton has a map with information on a 144 Mc. converter thereon, look like the boys up there will one day connect up with Sydney or the west they have done as good in U.S.A. so it is not impossible here. Alvin 2AH has worked ZL on 144 Mc. when conditions were favourable, of course. 2OT of Newcastle is on the look out for one DX on 144 Mc., so keep a look out for him. His frequency is 144.5 Mc. approx.; you should work 2EXX, 2SA and 2ACC, as they have very favourable locations.

2ADA has not been heard much of late? Also 2AST, 2QW and 2FO, how about a show boys. Bob 2AYK and 2LV both are setting up a new 2AG7 for 144 Mc. hope it's not too long before we hear them. 2ABZ has been ill, we all hope he is now on deck and that we will hear him soon again.

On 4th October a direction finding field day was held in Sydney, and five participants were out in the field located at various points within 30 miles of Sydney. Home stations also participated. Starting time was 8.30 a.m. till 4 p.m. Much 144 Mc. activity, during which time no bearings were to be taken or given. Each station could give two only bearings, his own and one other. To score any points, each mobile station had to be QSOed. The general idea was to locate all field stations in the allotted time and plot their position on a map. There were 12 home stations participating, plus mobile and some good bearings were given. Some chaps even giving bearings in opposite directions! The field stations were 2ANP and 2KZ, 2W2 and 2ABH, 2DA and 2LG, 2NP and 2HL, 2CE, Home stations were 2LZ, 2ABR, 2IX, 2ACC, 2KX, 2APQ, 2KO, 2FF, 2ABO, 2ZG, 2AWZ, etc. The Gladesville Radio Club 2ADY was represented by 2ANP and Exz Griffiths and 2NP/P. It was not a very nice day as far as the weather was concerned, but all enjoyed it. We will announce the winners next month.

It is regretted that the Western boys' big "do" and convention fell on the same date as our big field day. This will not occur again, as there is a roster kept now by the W.L.A. We changed our big field day to a d.f. field day at the last minute, as the big day was to have been of a different nature.

We are pleased to have heard John 2GA of Ethelton is on the air again with his usual 59 signal, after many months' silence. He says that Cess 2KR will be back also this we must see! 2RU has been very active of late and is even coming on 570 Mc. Ted 2EXX had a shack warming party on 19th Sept. and a very nice afternoon was had by all. Ted's new shack is roomy, and very nice. Appreciated. Those present were 2SA, 2ANP, 2RG, 2HE, 2W2, 2AJZ, 2AKX, 2XZ, 2IO, 2ADW, also Ced Cranon and the mobile champ, Exz Griffiths. 2APQ has not as yet put his tower up, but when he does, it will be a beauty. 2MJ has made things look nice in his new home and the shack is starting to look something also. He will be on 144 soon, so put some damping on all S meters.—2HO.

VICTORIAN V.H.F. GROUP

The September V.H.F. Meeting was in the form of a discussion session. Concerning C.T. triangulation tests, it was decided that for the time being one of these or something of a similar description be held once a month on the second Wednesday.

Two V.H.F. Field Days were set for the remainder of 1953, the first on 25th October and the second on the 6th December. Field Days for 1954 are to be decided later.

At the November General Meeting there are to be several lectures concerning the v.h.f., to be given by Amateurs active on these bands.

The 6 m. band shows signs of increasing activity. 2ATN, of Hithorn, and 2CL, at Nagambie, have made ground wave c.w. contact on this band over a distance of 125 miles. Ray 2ATN writes, "I have a 4 m. wide spread 6 m. beam at 62 ft. and a 5 over 5 for 5 m. above this, the top elements being 75 ft. above ground. When I have put the finishing touches to the 6 m. canode converter I will build up the 2 m. x 12 (20w. to a 2230) and also a canode converter for that band. I would be interested in 6 m. QSOs, my frequency is 50.184 Mc."

Ern Ladigas, a keen listener at Daylesford reports the following 2 m. signals so far heard: 2QZ, 2AH, 2ACH, 2CR, 2CB, 2AB, 2AS, 2AB, 2AB. His receiving set-up on this band consists of a converter, 6AK5 mixer, 955 osc. and 2AG5 13 Mc. I.F. stage, fed into a four tube super hetero. and the antenna is a folded dipole with reflector 25 ft. high. Ern would like it made known to any Mam visiting Daylesford

that a meal can be provided for him and XYZ (if any). He is located in Stanley Street.

No doubt all will have seen the announcement in last month's "A.S." of the new limited A.O.C.P. licence. It will be a pleasure to welcome these new stations on the v.h.f. 144 Mc. and above. Anyone either with a licence or contemplating activity on the v.h.f., is invited to attend the November meeting where there is to be a display of v.h.f. gear. V.h.f. meetings are held on the third Wednesday of each month at the Institute Rooms, 161 Queen Street, commencing at 8 p.m. All are welcome to attend, so bring along your problems and queries regarding getting started on the v.h.f. Those Amateurs already active on these bands will help make this display a success by bringing along some of their equipment suitable for the occasion.

SOUTH AUSTRALIA

The bands haven't been as active as they should be, but now that F.E. has announced the "Limited Licence," I really hope that there will be no limit to the activity on 3 m. whatever the type of gear—mod. osc. included if you want to—lie down Clem and Reg and plug in the wide band i.f. channels.

Jack 6TD told me that there was an extended period of ionospheric disturbance last month lasting for over a fortnight, which probably accounts for the short-lived 40 m. contacts with G.S.E. and Murray Valley, and very good distance contacts on the v.h.f. air-radio channels. Maybe we can arrange to have the same disturbance warnings sent to this QTH for transmission over SWI on Sunday mornings.

By the time these notes appear the v.h.f. month will have gone, but referring again to

(Continued on Page 17)

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DX ACTIVITY BY VK3AHH*

DX HIGHLIGHTS

The appearance of WJTCR/HL on 14 Mc. c.w. suggests that South Korea is again on the Ham Radio map.

KP6AK is supposed to commence operation shortly, while W7HS/KP6 closed down on 20/9/53 (thanks 2AHH, 3AKO).

Jack Wheeler, W7FNK, well-known to many VKs as F06AI, intends to operate from VR3 on c.w.

Pondichery, French India, may soon be represented by FNSAE, while T19UXK (Cocos Island), operated by W6UXK, is likely to appear this spring.

BAND CONDITIONS

15 Mc.: DX on this band is always to some extent a fight against noise, and the approaching summer does certainly not improve things in that regard. However, propagation conditions in general were quite fair during September. Several openings to Europe as well as North America were reported and observed here.

16-year-old s.w.l. Dave Jenkin, of Box Hill, Vic., reports W7FPE on c.w., while 2AHH based a series of Europeans (1000-1130z) of which 8M5KRD, DL1MM and DJ1TU had relatively strong signals.

7 Mc.: Spring brought an increasing QRN level on this band, but DX conditions were again quite good to all parts of the world except South America. Throughout the month European openings were remarkably stable over the long path (0900-0900z), while the short route also provided good signals from the old continent (2000-2230z). Not many African or Mediterranean stations could be worked or heard during September which, however, appears to be more a matter of inactivity "over there" rather than bad conditions. The band opened to those areas on both short and long paths (1900-2100z and 0900-0930z). Central American

break-throughs were regular during the first half of the month (0600-1200z) with sometimes excellent signal strengths. Conditions to W land, the Pacific Islands, and Far East were of the usual good quality.

All reports include the normal run of Ws*, in particular those of Russ 1RL, and Frank 2QL, while Laurie 2AMB also worked KW6BB* and a number of Gs*. Bill 3IE QSOed KH8* and KX8*. Eric 8E83BS heard DUTSV JASYL, FK8AO, KX8BE, VP8RF VP8BO, KB8AV, YK8BB, KX8BF, VR8CG, VS8AS (2800z), IT7TKR, F8ACR, ZK1AB, ZC4CA, 3ARJ, VU2AC SU1SS, FK8AB, Europeans UO2KAA and UA8KKE. Young Dave's c.w. list shows K4CAC, FK8AO, Gs, DLs, Fz, KGs, and T19C on phone. SKR said that 3ANF worked HXFL on phone. Eric 4EL reports GSHH*, 11CUV*, SM5OS*, IT7TKR, L21KAB and others. Aussie 4TN made phone contacts with HF3F*, and a series of Ws*. Erg 8KT found conditions better on this band than on 14 Mc., and his long list of good DX proves it: KL1ADG, KX8BP*, FK8AC*, KP4TA*, KH6AVH*, VK8GM*, KZ3CP, KG4AN, FK8BA, DUTSV VP8BF, VR8CG, KB8AV, CH8EG, VQ8KF, G1GKE, DLs, Gs, 1, 2AB EA, YU, LA, SM, OM, 4XA, UOI and UA4 3AHH's log mentions CH8AF*, KG8GX*, T1PZ*, G1BTA*, FBQJ*, plus other Europeans* and KP4KD KE1ER, FK8AR, VQ8KF, KX8s 14 Mc. This month provided openings to all continents in a more or less regular fashion. European, Mediterranean, and Middle East conditions were reasonably steady throughout the month, the first half of September mainly over the short path (1100-1900z), while long route break-throughs to above areas (0500-0830z) predominated during the latter half. The east coast of W land often started to break through as early as 1900z. 3000-2400z was another period for openings to that area. Erratic short-route conditions to the west coast of North America, Central America, and South America were reported and observed here between 0300-0700z. African long route openings sometimes occurred during the same period. Times for South East Asia were 2200-2300z and 1000-1300z.

Here is what Dale and Daabes brought forward 2QL complains about high noise level at his present QTY, but anticipates to change this very soon. Frank is still using low power

and logged Europeans*. 5A1, YA, CNB, KY4, KP4, and others. 2AHH stepped into the DX with all enthusiasm, greatly assisted by his 60 ft. high rotary beam for this band. Noel's listings are Gs*, DJ*, OH*, CE*, CZ*, OK*, SPs*, SM*, KV4BB*, F7BAR*, Y12AM*, F6AY*, C1BP*, YU*, DM*, and 4X4AR*. Harry 3GU reports G3DF*, SV8RF, YV4AR*, Z3BIC*, Z3CV*, Gs*, and other Europeans*. JAE worked FASAO* and the common run of Europeans*. Jack 3II QSOed ZB1UD*, Z3AD*, Z3BY*, Z3BY*, C1BX*, ZK1AB, F7JAZ*, 1*, FAS*, Gs*, SMs*, DLs*, KAs*, JAs* and Ws*. Ken 3KE lists YV5AE*, H7IAA*, K5AB*, VP8FL*, KL1AQ*, FK8AO*, TAJAA*, 1*, EA, DL*, OD8RH*, FK8AE*, K8MAY*, 4X4EN*, VR8BZ*, KV8BB*, FK8AC*, Ws*, and KH6*, while John 1AKO was successful in contacting W7HS/KP6-KR8E*, FK8AE*, Gs* and JAs*. Ken 3ANF QSOed W7HS/KP6s* 4STXG*, H51WR*, H83CA*, CR8AF, CT1FW*, VB8CR*, KH6LP*, V81FD*, Gs*, SAs*, FAS*, DJ*, HB*, OH*, K7-7ATT*, K8BAY*, KQ8s*, KAs*, and JAs*.

Dave Jenkin presents a long list of Europeans of which G2GZ is heard at the unusual time 0015z. Further listings are LU4ZM (8345), ZK3AA, V7RAE, DUTVC, VP3SC (9425), VR8CG, FK8AO, Z31JA, KR8VR, KR8IN, DJ8JG, ZC3VS, KZ3GH, VU8CS, AF2R, Z38CY, VK1BA, Ws, KAs, and UA8KFA—good going Dave, but don't forget your school work! 4EL reports European break-throughs around 2330 and 0100z which are of special interest as no other report mentions Europeans at that time. Eric's listings are Z3SA*, 1RL*, plus other Europeans* (1300-1500z), ZC4IP*, SU1SS*, FQ8AP*, OD5AB*, ZD4AB*, H7IAA*, VK1BJ*, 804 4RW QSOed F7JAT*, C1BP*, K8MAY*, KV8BB*, and YU* John 6W1 lists Z31JA*, Z3SAM*, and Z3ZCF, as reported by SRK 8KU logged KR8MV*, DUTSV, H7IAA*, CR8AF*, CS4W*, KL1ATN*, FQ8AB*, FK8AE*, DUTVC, ZK3AA, VT2, VSS, K8B, KR8s, KG8s, KH6s, KAs*, JAs*, Ws and VK9YT*. Ray 7ET reports KAs*, KH6*, Ws*, and FK8AE*, KG8AE*, KR8IN*, LU, YU, Ws, and JAs*. My own listings are ZC4IP*, VR4AB*, V81FD*, KR8IN*, Gs*, DLs*, OHs*, 8M*, KR8AS/ZK8s*, H2AB*, F7BBS*, ZC3VS*, ZC3VM, and VU8CS.

Activity on 30 Mx Phone is also well covered by incoming reports. Russ 1RL, this month's representative of the Macquarie Island station (operated by Scott 1AF, Brian 1BA, and Russ), reports Ws*, JAs*, and VK1KH*. 3AHH mentions XE1AC*, H7IBO*, VY8BZ*, FQ8AB*, V81*, V83*, OM5DFL*, CT1*, P1LJ*, F, HB*,



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AMATEUR CALL SIGNS

FOR THE MONTH OF AUGUST, 1953

ADDITIONS

VK—
2A0Z—L. H. Ferris, Station No. 4 Powers Court, 77 North Steyne Rd., Manly; Postal: C/o 109 Grand Pde., Brighton-le-Sands.
2AUC—F. Bobliff, 270 Johnston St., Annandale, Sydney.
2AWX—Wireless Institute of Australia (Hunter Branch); Station: Technical College, Tighes Hill; Postal: C/o Mr. V. F. Pitt, Sec., Hunter Branch W.I.A., 34 Fawcett St., Mayfield.

Victoria

3K1—T. P. Kirby, 79 Normanby Rd., Kew.
3AHQ—H. N. Charles, 17 Valley View Rd., Glen Iris.
3AMQ—Balarat & District Radio Society; Station: Y M.C.A. Buildings, Camp St., Ballarat; Postal: C/o A. C. Lord, Sec., 8 Queen St., Ballarat.
3ARU—A. N. Jones, 33 Thistle St., Brunswick.

Queensland

4NP—N. F. Wilson, Cr. Newman Ave. and Kelly St., Camp Hill, Brisbane.

South Australia

4BY—M. Bradley, 4 Taylors Rd., Mitcham.
4FT—Edo Van Tijn, Acherson Ave., Blackwood.
4WC—Woomera (S.A.) Amateur Radio Club, Station, Woomera Radio Club Rooms, Barings St., Woomera; Postal: Mr. R. A. Calmur, Hon. Sec., 34 Burrauld St., Woomera.

Territories

6WZ—F. G. Anson, R.A.A.F. Base Squadron, Memote, Admiralty Islands.

ALTERATIONS

VE—
3HT—887 Fitzgerald Avenue, Maroubra.
2NK—44 Darvall Road, West Ryde.
3QJ—33 Castle Street, Newcastle.
3XU—511 Guildford Road, Guildford.

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IVC7	100 "	IVC18	8800 "
IVC8	150 "	IVC19	10K "
IVC12	680 "	IVC20	15K "
IVC14	1500 "	IVC23	47K "
IVC15	2200 "	IVC24	68K "

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2ZB—15 Summit Avenue, Earlwood.
2AEJ—2 Ashley Street, Waverley.
3AGZ—42 Alfred Street, Waratah, Newcastle.

Victoria

3AZ—8 Tyrone Street, Ormond.
3AEJ—C/o. Station 35H, Swan Hill.
3AJZ—Station: Coaville Road, via Moe; Postal: C/o. Noble, P.O. Box 53, Moe.
3ALT—48 Chelsey Street, Deer Park.
3ATJ—Postal: C/o. W. Zimmer, 30 Skene St., Newtown, Geelong.
3AVZ—1 Dalley Street, Clifton Hill.

Queensland

4BF—Station: Quipile Road, Charleville; Postal: Box 43, Charleville.
4BG—89 North Street, Maryborough.

South Australia

5OB—Postal: A.R.D.U. Trials Flight, Woomera.
5PB—Abbeville Terrace, Marion.
5PN—2 Austell Street, Unley.
5RQ—3 Richmond Ave., Colonel Light Gardens.
5SR—15 Gilead St., Toorak Gardens, Adelaide.

Western Australia

6DJ—8 Carrigill Street, Victoria Park.
6EL—Evans Street, Geraldton.

Tasmania

7PJ—19 Tower Road, New Town.
7PP—1 Hart Street, Launceston.

DELETIONS

New South Wales VKs 2UL, 2ABW, 2ANT.
 Victoria: VKs 2JF, 2ADS, 2AWK.
 Queensland: VKs 4AV, 4ES (now operating under VK1AUC).
 South Australia: VKs 5MP, 5WN, 5WZ (now operating under VK6WZ).

FOR MONTH OF SEPTEMBER, 1953

ADDITIONS

VE—
2AAC—M. J. Cogburn, 10 Huntingdale Ave., Narver, via Horne Bay.
3AGN—O. E. Nixon-Smith, "Cranston," 288 Bowick St., Bathurst.

2AIT—G. N. Chapman, 18 Fernhill Ave., Epping.
2AQZ—W. A. Cooper, 178a Jessie St., Armidale.

Victoria

3UM—W. T. S. Mitchell, 1046 Malvern Rd., East Malvern.
3AMT—A. M. Woolley, 261 Glenferrie Rd., Malvern.
3ANY—J. W. Rake, 36 Grandview Ave., Pascoe Vale South.
3APN—W. Reid, 17 Crawford St., Seymour.
3APR—J. R. Hally-Barton, Stonyford.
3ATJ—J. Wilson, 6 Grant St., Colac.
3AWF—W. J. Falconer, 21 Irlibarra Rd., Canterbury.
3AWQ—W. Kelly, 3 McDonald St., Northcote, N.16.

Queensland

4HO—H. T. Overend, Mona St., Edge Hill, Cairns.
4MI—C. C. Mabbott, Station Ham St., Glen-curry; Postal: C/o. Flying Doctor Service of Aus. (Qld. Section), Glen-curry.
4SF—J. C. Watson, Station Mobile on board M.V. "Silver Fin"; Postal: 13 Bernard St., Claremont.
4TF—E. C. Tow, 5 Brook St., Boonah.
4TQ—C. & Eckstein, Station: 59 Ninth Ave., Railway Estate, Townsville; Postal: 48 Ninth Ave., Railway Estate, Townsville.

South Australia

5EO—E. G. Barnden, 34 Lindsay Ave., Woodlands Park.
5FE—J. Ward, 37 Halifax St., Adelaide.
5HQ—C. H. Judd, 215 Goodwood Rd., Colonel Light Gardens.
5KI—K. Pentler, 568 Moscow St., Peterborough.
5PQ—P. Muscat, Shakespeare Ave., Magill.

Western Australia

6EL—E. J. R. Cowles, C/o. W. Aggis, "Hed-leigh," Karlgarin.
6JR—J. R. Wood, Rillberrin.
6WJ—W. Jacobs, 134 London St., Mt. Hawthorn.

Tasmania

7MH—M. H. B. Rurburgh, 23 Clarke Ave., Battery Point, Hobart.

Territories

6WP—W. A. F. Luke, C/o. O.T.C.A. Radio Station, Rabaul.

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Since our meeting in Casino on 22nd August with the President, Jim Corbin, there has been some increase in activity on the Far North Coast. Most of us now have a clear picture of the inner workings of the N.S.W. Division.

The initial picnic day was held at Brunswick Heads on Sunday, 27th Sept. Weather conditions were not as favourable as we had hoped, no doubt, kept away the majority of those expected. Clive ZAGM provided entertainment for the company, particularly the ladies, with his small craft fitted with out-board motor. Even the children cried for more trips on the river. Thanks to the tree climbing efforts of "Blue" ZAEU, we managed to get the portable tx working and had one contact with a VK4. Unfortunately, due to antennae problems the pre-arranged sited with 2W1 at 11.15 did not take place, we had not at that time tied up with the versatile "Blue." We parted company at 3 p.m. with the same question on the lips of all—"when do we meet again!"

There is a story current that Charlie ZADE gave away, in a moment of generosity or despair, his first tank condenser. That multi-band tank certainly worked too. So well did it work that ZEV, when he got it, decided that he must also have one. It's on the drawing board at present. Bill also collected a substantial sum in the form of C.D. Contributions to this group. He, of course, is rather younger than most of us. We don't hear much of Fred ZAPY, from Stokers' Sliding, but he is expected to be the proud possessor of an Eddystone rx shortly.

The Lismore gang are mainly represented by 2LR on 3.5 Mc with occasional bursts from ZUC. Alf EDC is at present spending three months in Murwillumbah and expects to have a Type 3 operating shortly. Graham ZFN operates on 14 Mc when he is not struggling with the design of v.a. voltmeters. There is a great opening in Lismore for anyone who can cure power leaks—he will make a fortune. Possibly "Blue" ZAEU will have a solution when he gets back on the air. From Kyogle, we hear 2LR quite regularly on 3.5 Mc, and occasionally ZASO. Some renewed activity is to be expected from Byron Bay now Bob ZAPY has moved into his new home. No doubt he will encourage Clive ZAGM to crank up his tx a little more often. The zone book-up on 80 mhz each Thursday night has been quite active; let us hope it will continue.

WOY WOY FIELD DAY

Sunday, 15th November

Final arrangements for the N.S.W. Division's Woy Woy Field Day include entertainment that should suit all-corners. The day is conducted annually by the Division with the co-operation of the Hunter Branch and local Amateurs. It is the one occasion during the year when at a central point, Amateurs from the Hunter Branch and the country meet the Sydney gang.

Attendances on the last two occasions have exceeded the 200 mark, and judging from early enquiries this year's event should be well supported.

Assembly will be between 10.30 and 11 a.m. at the venue the Masonic Hall, Woy Woy. No prior booking is required, just come along, bring your family and friends. If you can indicate your intention of attending it would assist the organizers. Please contact the Secretary, Dud Millen, 1LQ, or Cess Hardman, 1KR, or Woy Woy.

The morning session will commence at 11 a.m. with competitions. For Amateurs with mobile or portable equipment, the "All Band Scramble" will be run from 11.45 a.m. to 12.30 p.m. Lunch period will be 1 to 2 p.m.

At 2 p.m. searchers will leave to locate the hidden tx on 144 Mc. Transmissions will cease at 3.15 p.m.

During the afternoon special competitions will be conducted for the ladies and sporting events for the kiddies.

From 4 p.m. to 5 p.m. presentation of prizes and general re-union.

Don't forget the date, 15th November. Make Woy Woy the terminal for your Sunday excursion. Show the TF there are other aspects of Amateur Radio besides heaps of equipment and long sessions in the shack!

CANDERA NEWS

On 5th and 6th Sept. Candera had a visit from Divisional President ZTC. Jim was shown around the city by ZAIL, finishing up at ZGV's shack on Mugga Way. Sunday afternoon Jim

was invited over to the local Canberra Radio Club at Riverside. Present to greet him were two visitors from Yass, ZDO and ZALS, and two from Goulburn, ZBO and ZOY. Locals were ZANI, ZFM, ZPI, ZASB, ZAIL, ZAPV, ZJG, Joe Marshall, Bob Clark, Ray Fraser, and Lee Sparks. Jim had brought along a tape recording on a 4 mhz equipment which was appreciated by all. Discussion ensued on proposals for increasing aid to country members of the W.I.A., many interesting suggestions being put forward. Later a hamfest (in buffet style) was held at Ron ZPA's where Jim conducted his campaign for increased membership in the W.I.A. Final figures are not yet to hand, but the results are promising. The only casualty of the campaign was Jim himself who had perhaps eaten not wisely but too well! Anyway, the gang at Canberra are eagerly awaiting a further visit by the President.

HUNTER BRANCH

The September meeting of the Hunter Branch of the W.I.A. was held on Friday, 11/9/33 at 8 p.m. at Tighes Hill Technical College with 19 members present including Ron 1LP and "Taree Bill" ZAEY. President John ZDZ was in the chair. The lecture for the night was given by Ron.

On Wednesday night 23/9/33 Phil ZTX gave another illustrated lecture on his trip overseas to an assembly of 84 Herts, YLA and KYLA. Visitors present included Mr. C. E. Collins, President of Automotive Institute, Mr. K. Greenhalgh, Chief Engineer ZKO, and Mr. F. Hinks, Assistant Radio Inspector.

The Hunter Branch Field Night was held on 3rd October at No. 1 Sports Ground. The hidden tx hunt was the main event of the night, the frequencies used being 2.5 and 144 Mc. The tx was hidden within three miles of the Sports Ground. Jeff YVU and party were the discoverers of the tx which was located in dense bush 300 yards from the road. Jeff took one hour to find the tx and travelled 30 miles around Newcastle suburbs before getting definite cross bearings. After all other participants returned to base various competitions and quizzes were held, the results being: "Reading C.W. Through QRM," won by K. Greenhalgh, ZKO; "Quiz from last six issues of 'A.R.' won by Jack ZADT; "Estimating Capacitance of Two Condensers," won by Dave ZBE, "Most Useful Call," won by Ron ZKO. Among those present were Ron ZASJ, Bill ZAXM, Doug ZASA and party from Wyong; John ZDZ and Pat

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The following day, Sunday, 4/15/53, a social picnic day was held at Blacklacks Park. The attendance being 74 adults and children. The programme consisted of social and sporting activities including tennis races, ladies' races, men's races, tug-o-war, ball throwing competitions and a Radio Inspector's race, which attracted a large crowd. Refreshments were served by the ladies. A. L. B. brought the A.R.I. by a short head. Joyce Whyte, XYL of 2AHR carried off most of the ladies' prizes by winning cars for racing and ball throwing. The winners were Dave ZEO and wife, Don 2ASW, Ernie 2AL, Len 2AKZ and Betty 2AAB. During the day the ladies were liberally supplied with sweets, soft drinks and ice cream and all agreed that it was a very successful day.

Bill ECT has his 3 over 3 over 3 erected and is operating and is very well pleased with results. Leo QGB expects to have his 100w rig in operation in the near future. Jim 2ASJ and his children, and Syd Daniels, have had a holiday at Urunga and visited Crief 2KO while there. Frank Stubbs, associate, still an inmate of 11th A.G.H. Concord. We all hope you will again soon. Frank Norm 2AIA will have little time for QSOs until his daughter recovers from a very bad cold. He has been away from home for a while. Having shifted his QTH from Wyong to Newcastle. Welcome to the Hunter Branch. Charles Lionel 2BZ will, by now, be back at his QTH. Syd Daniels, of Christchurch Hill, so we expect 59 signals from that location. Varley 2BZ very quiet on the bands today, due to pressure of work.

The next meeting of the Hunter Branch will be held at Tighes Hill Technical College on 15/11/53 at 8 p.m. The lecturer for the night will be Bob Winn.

SOUTH WESTERN ZONE

Most of the chaps in this Zone who are active have been heard on the different bands lately, so will not comment on individual call signs. The committee members of the South Western Zone met at Waga on the 8th and 9th September to arrange a programme, those present were 2PN Tumut, 2BW Waga, 2RS and 2EW Albany, 2RT and Assoc. Ted, Brewitt, from GRIFFIN, and Ed Gibson. The boys are really keen on the Convention as one can see by the distances traveled by the committee. Waga was the first to arrive, and by the time this is read, other zones should have received programmes and the Convention will not be far away. We have a very good prospect that have been donated, and the chaps in this zone are already cleaning the dust of the sports gear and are looking these prizes in the zone. Here's hoping boys.

We hope to see a good gathering at the Convention on 21st October and 1st November, when we hope most of our associates will be there. Personally whom so far we have only heard by voice. STOP PRESS: Stewart 2PL proud father of new daughter—2AJO.

.....

VICTORIA

The October meeting was held on 7/10/53 at the M.T.C. The attendance was the best for quite some time, I counted 80 and think I missed a few. The agenda item, "Kinks" was very well received, and the following gentlemen came forth with their ideas: Harry Chapman, Fred Ball, Max Hull, George Wonnor, John Ball, George Glover, Jack Duncan and Syd Clarke. Possibly some of their hints will be used to fill the odd corners of A.R.'s from time to time.

ANNUAL DINNER

I must hasten to correct an error in last month's edition. The Dinner is to be held on 14th November at the Silver Gate Hotel, South Melbourne, and the subscription is £1. Only limited number can be accommodated, so book early.

NEW MEMBERS

Membership received quite a boost this month with two full members and one associate. The new members are: VK3AF, Falkner, VK3AWE, and Associate members: G. P. McKenna, Brian Forbes and Ken Rogers. A hearty welcome to these boys and may you all take an active interest in your Institute. To the associate members, go to it and get that ticket.

TRANSMITTER HUNT

It appears that a transmitter cannot be so hidden that the boys won't find it. On the last occasion, the buried transmitter was found at sand at South Clayton. A length of co-ax went from the tx. under a 20 ft. stretch of water, then under a length of 20 ft. of wire. It took 1 1/2 hours to get the gear up, and the first two in found the thing (much to Co's disgust) in less than an hour.

The results: Dead heat for first between Jack Duncan and Bob Hall, third Eric Beauman, fourth 2AEN and 2AOK. Twelve of which were fitted with d.f. gear left the assembly point.

The next hunt is scheduled for 15th November, the assembly point being the R.F. Parade, Castles. This location is at the top of Swanston Street, near the University, and is considered to be a quieter area than the Flagstaff Gardens.

2AEN apparently had prior knowledge that the tx was in a hole, he went out with an assortment of gear, found 15 holes but all they held was a little white ball. 2AOK, another newcomer to the bands, Don't let the enthusiasm die Allen. Mrs. JTF finds the shack the best place for the tx. Is that with the elements on or off Bill?

As expected, my backstop didn't let me down, in fact he provided the star turn of the month. He operated on 20m and 30m, and on 20m, 2AOK's car, after first covering the spare engine in the boot withessian. Unfortunately, he forgot to remove it when the job was finished. The gentlemen in the bribe helmets extinguished the fire, but the XYL will be careless for a while.

2AOK burnt out the modulator power supply, but despite definite vows not to replace it, Ian was back on the air in 10 minutes. 2AOK's car, after first covering the spare engine in the boot withessian. Unfortunately, he forgot to remove it when the job was finished. The gentlemen in the bribe helmets extinguished the fire, but the XYL will be careless for a while.

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STATE CONVENTION

Don't forget the State Convention to be held at Benalla on 28th and 29th of November. The boys in the zone assure that a good programme has been arranged. Load up your mobile gear and go along.

How the prodigal sons are returning. The latest being Bill Mitchell, 2UM, and John Tutton, 2ZC. Both showed up for the 10th October meeting. The President gave them a hearty welcome home and expressed the hope they would take an active interest in the affairs of W.I.A.

Talking of Presidents, did you know that 2RS thought of resigning about a month ago? reference to his waist line. The 7130s the VK3 gang gave him were a peace offering. Anyhow, if for one will turn the beam on VK3 this summer and ignore the VK3's in June.

2ZS and company made a good showing on a recent half hour broadcast programme, then to cap things properly, the A.B.C. news service covered the last 15 minutes. The boys are a little publicity, and yours truly is surprised at the number of people not interested in Amateur Radio, who took notice of both.

Last but not least, the good news about Tom 2JIK. Tom is making good progress and has been out of bed. He will be pleased to see anybody who has half an hour to spare. He is in Ward 5 West at Prince Henry's Hospital.

CENTRAL WESTERN ZONE CONVENTION

Stawell, 7th September

Fortunately the weather was kind to us, the day really good and in the midst of quite a string of blue winter ones. By 10.00 a nice crowd about 30 in all, had gathered outside 2AOK's premises and so terrific was the big chaps that no one noticed that the lunch was about three-quarters of an hour late. The lunch then became the first unofficial "Scramble" and in no time the boys were over and everybody congregated outside the rendezvous in the warm sunlight whilst last 2AOK was making good progress and has been out of bed. He will be pleased to see anybody who has half an hour to spare. He is in Ward 5 West at Prince Henry's Hospital.

Meanwhile Roy 2ND and Jim 2SV were atop the highest point around Stawell with a 2mx beam and gear, reading out the signal in the pass. Next Convention our intention is to inform all v.h.f. groups of our Convention date and hope to work long distance a 2mx. To proceed with the "Scramble," the hour soon elapsed and one highly elated and four rather dejected parties returned to base. John 2AGD had been very happy, but he was fed up because he had logged nine stations including one interstate, therefore becoming an outright winner.

After a brief pause in which many odd sizes and shapes of loops were brought out, dusted and tendently connected to the rx, all were

briefed by Bill 2AKW on times, etc., to the turn of the day, namely the Hidden TX Hunt. Roy 2TV had already made his mark with three boxes of gremlins (which does persist in giving me nightmares still) to hide it in some QTH somewhere. On 2AKW's OK, away we all went. About half past the hour 2AGD with 2AKR spotted 2AJO heading for Ararat. 2AJO claimed the signals to be very strong and not to be a coincidence as he went further south to Stawell. Just a slight error in mistaking the Hidden TX for his own electric fuel pump. Not unlike in signals, the signal was very strong and was located in the local rubbish tip under some old boots and tin cans by 2AGD with navigator 2AKR and bomb-aimer the HOP 2AGD with just a few seconds behind. Charlie 2BZ started, but lost track of the signal early in the piece on top of a hill under a shady tree with 2YL. Anyhow, congrats to John 2AGD for a double on the day, i.e. Portable Scramble and Hidden TX Hunt.

After more rag chews interspersed with tea, we all migrated to base and the Annual Meeting. Officer-bearers nominated for the next twelve months were: President, 2TA; Vice-Presidents, 2ND and 2AKV; Secretary, 2AFO. Quite a lively meeting followed with emphasis on the R.D. Contest. Namely the method of the present system of mounting points and means of improving same. 2AFO was awarded the best zone hook-up attendance prize, which was closely contested by 2DP and 2AKR. The meeting then closed and two very informative films were screened. The first on Radar and the second on P.M. In this case, I would like to thank the P.A. and active for making such an enjoyable programme possible.

After the films a delightful supper was provided by Mrs. Kinsella, Carmel and Bill who must have put a terrific amount of work into making such a f.b. spread and our thanks go to you all.

We regretted that 2NN and 2RR were unable to attend because of illness, but both are on the road to recovery now, so all is well. Very pleased to see Lin 2ARL looking so well after his illness which prevented him from being present at last year's Convention.

It was very late at night or very early in the morning that we eventually made our way home, full of happy thoughts of the friends and had a quiet sleep and looking forward to the next Zone Convention. By the way chaps, do not forget to keep the 8th and 7th November clear. It's the Central Western Zone Convention to be held at Colac. So with best wishes for a night at 1130 hours, end of 80 mx, cheers, 72.

SOUTH WESTERN ZONE

Zone Convention on 7th and 8th November at Colac arrangements are now complete and in-



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clude a dinner, short meeting, tx hunts, scramble and movies. Listen to 3WT for programme, so bring along mobile and portable gear. JAKC and RAGV are in charge of the organisation. Well chaps, it's up to you.

Gordon JAGV has passed the one thousandth contact with Skene SS8; well done, it must take some doing. The zone has lost 3NV for the time being, having gone back to his home QTH at Bathurst and is now operating under JAGV, his old call. JAGD and gang scooped the pool at the Central Western Convention at Stawell, don't worry John is handicapped for Colac. Jack JAKC has built the hidden tx and says it will not speak to John's rx. Somebody else may now have a chance.

3TW has built himself a Clapp v.f.o. with a RV8, now sits on the hook-up frequency on 3530 Kc. on Sundays at 1000 hours; still having good numbers turn up too. 3BQ on recently on 40 mc, thought he had given radio away. John Adams sat for his c.w. last exam, good luck John. JALC, the only Gentling chap heard here on the hook-up and a mighty fine sig Fred. How about some of you city chaps coming to the Convention and meet some of your country cousins. Just a nice trip from the big smoke.

NORTH-EASTERN ZONE

Alan 3AC and Doug 3IJ have their new riga on the air now, while Chas JACW is still having success with that history. Syd 3CI has quite an attractive selection of beam antennae in his yard now. Jim 3JK would be the best man to ask about that 30 mc gemlin QSL.

Although no close studying has been done, the provincial news-sheet has not given off anything of Murray 3H2, neither was Peter JAPF referred to in the Square Dancing. Alex 3AT and Les 3ALE must be re-building or studying as they are like Johnny JAKC, and have not been heard of lately. Rex 3UR has been the one to keep our routine sent "skeds" lately on 80 mc, while Des 3CO has been heard about his own interests on 40 mc. Alan 3UI is building a new shack, and Keith 3IC has been away in VK3 on holidays. Stan JAGT put in a welcome appearance on the last zone hook-up with 20w. final input. Hugh JAHF has been getting about and looking over a well known local institution, amongst other things, and Col 3WQ is in a spot of trouble with a Type "B" power supply. Jack 3TF is a bit short of time for Ham Radio just at the present moment.

3TV was reported on 80 mc the other day working with Ken 3ER and Henry 3HP. Have not had any direct or indirect contact with Tom 3TS or George 3GD and nobody has reported hearing Frank 3ZU lately, which leaves Gordon 3XU. Vic JABX, and Des 3BP yet to be accounted for. Must also rustle round and track down the various Associates, like Ken McInnes and Jim Harrington, as soon as opportunity offers.

QUEENSLAND

September meeting showed some improvement in the attendance, showing some, at least, have the interests of our organisation at heart. Even Gordon 4GH, from Maryborough, was along. Also Arthur 4AW was with us and gave a lengthy discourse on civil defence and the plans in hand to promote same here in VK4. He made a strong appeal to the v.h.f. to help tie the job up.

The VK4 Inbrastate Shield was on display and by the number who have nominated the place for their call sign, seem as if it's going to be a lively competition from now on.

A Dutch auction is the order of the day for our November meeting, so all of you with surplus gear, bring it and yourselves along to make a good night of it, thereby swelling our funds and maybe acquiring that piece of gear you have been looking for.

As some members seem to think Council is being conducted on the lines of a secret society, members are invited along to attend these meetings as observers and see how this body handles the affairs of the Institute. We of the Council would like to see all members from time to time avail themselves of this opportunity. Then you could praise the Council or otherwise at the general meetings.

Council has discussed plans for a Christmas Party for members, their families and friends. This is to be held in a hall, to be chosen, with possibly a Xmas Tree where we could hang a present for the young hopefuls as a "bonus" in attendance. It has been suggested that members and their wives supply supper in the form of cakes, sandwiches and what have you, the Institute supplying tea, drinks and those eatables so dear to the little boys and girls. Entertainment to be a few musical and comedy items, interspersed with dancing of the square and other variety. All members will have to get

behind Council in this, otherwise it could prove as big a fiasco as last year's Xmas do, and we don't want that, so your support please.

The Secretary informs me badges are available and outstanding membership certificates are being forwarded. So don't panic him boys, give him time.

The get-together at Ipswich proved very popular both in the amount of gear that was brought along and the numbers who came. It was a bit slow in starting, but after things got under way, everyone was determined to enjoy himself. Some good contacts were made by the portables, and in date of writing this, the ultimate winner will have to be decided by the Contest Committee owing to different interpretation of the rules. So to all of you who have promised to me on the part of some of the contestants, it will be seen into.

Another day is anticipated maybe around November or December with hard and fast rules. A few donations are on hand for prizes in the sporting events, meaning those with no portables, but with some athletic aspirations, may be able to collect a prize. Thanks must go to the Ipswich boys for the organising of the socialities up there and making the day a success.

While on Ipswich, my spy informs me conditions up that way on the higher frequencies have been very good with Jack 4HF getting himself some new countries on plans and Harold 4HG putting himself up a 14-30 Mc beam to get among them, wot no 21 Mc. Harold 4H was waiting for the DX to break through the boys there have a round table rag chew most nights around 730, which keeps them in touch and gives my spy an opportunity to find out what's doing. Brisbane boys please note.

Conditions here in Brisbane have been very good after 9 p.m. and DX has been available on 7 and 14 Mc. In the c.w. and 4B1, and 4B2 have been the most consistent, and 4DE and 4WH of Townsville have been heard getting amongst them. 4TN and 4YA are the only phone boys heard regularly here, with 4CH occasionally putting in a strong sig. As for the others, I think they must be doing a lot of work, as they drop in and out, what's going on, but one never hears their signal.

NORTHERN NOTES FROM VK4EL

Harry 4KH has been very active on 21 Mc. and gets some nice DX at times, also worked a wee bit on 14 Mc. 4JH almost ready to go



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Page 23

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